

**WE CLAIM:**

1. An improved transmission system for scooter comprising a gear train assembly and a gear shifting means; said gear train assembly comprising an input shaft (43) provided with an integral gear (43a), intermediate shaft (44), an output shaft (45), an input fork (46), an intermediate fork (48), an output fork (50), three dog gears (47, 49, 51), four slotted gears (55, 56, 57, 58), and gear (59); said gear shifting means comprising a crank case assembly (34), a sector plate (42), a gear shifting lever assembly (30), a gear shift lever (31) having a slot (32), a pair of lanced projection (36 and 36a), an integral bent lug (39 and 39a), six numbers of gear shifting pins (35), a drum assembly (37) provided with milled profiles (52, 53, 54), a spring loaded inhibitor (38), a stopper pin (33), a compression spring (41) and a torsion spring (40); said gear shifting lever assembly (30) being fastened to said sector plate (42) at one end thereof and said gear shift lever (31) being welded at the other end, said sector plate (42) being operable through control means provided; said gear shifting lever assembly (30) being connected to said crank case assembly (34) by said torsion spring (40); said drum assembly (37) being rotatably fitted within said crank case assembly (34), said gear shifting pin (35) being slidably fitted through splines to said drum assembly (37) by said compression spring (41), said gear shifting pin (35) being operable by said lanced projection (36, 36a) and its movement being limited by said bent lug (39, 39a), said inhibitor (38) being connected to said gear shifting pin (35) through a torsion spring (66); said input fork (46), intermediate fork (48), and output fork (50) being engaged in said milled profiles (52, 53 and 54) on said drum assembly (37); the other end of said forks (46, 48 and 50) being connected to dog gears (47, 49 and 51) respectively, said gear (59) and dog gear (47) being rotatably fitted on said input shaft (43), said slotted gears (55, 56) and dog gear (49) being rotatably fitted on said intermediate shaft (44) and said slotted gears (57, 58) and dog gear (51) being rotatably fitted on said output shaft (45) to achieve the desired gear ratios and resetting said sector plate (42) and said control means back to its normal position.

2. An improved transmission system for scooter as claimed in Claim 1 wherein said transmission system being spatially located within the wheel rim diameter code.

3. An improved transmission system for scooter as claimed in Claims 1 and 2 wherein said gear shifting pin (35) being operable by lever (71) attached to gear shift lever (31) by a pin (74).

4. An improved transmission system for scooter as claimed in any of the preceding claims wherein the control means comprises a gear control link (65) which is fitted to a twist grip (60) mounted on needle roller bearings (62) operated by hand; one end of cables (63, 64) is connected to said gear control link (65) and the other end is connected to said sector plate (42).

5. An improved transmission system for scooter as claimed in any of Claims 1 to 3 wherein said control means comprises a lever (21) which is operable by foot, one end of cables (25, 25a) is connected to said lever (21) and the other end is connected to said sector plate (42).

6. An improved transmission system for scooter as claimed in Claim 5 wherein said sector plate (42) is operated by means selected from electrical motor or by solenoid or hydraulically or pneumatically.

7. An improved transmission system for scooter as claimed in any of the preceding claims wherein said input shaft (43) gets drive from the crank shaft through flexible linkage such as chain, belt, or drive shaft.

8. An improved transmission system for scooter as claimed in any of the preceding claims wherein the number of transmission ratio is three or four.

9. An improved transmission system for scooter substantially as described herein and as illustrated in the accompanying drawings.